Regional Routing Model Review:

A) Data Fusion Efforts and Issues

Frank Southworth
Oak Ridge National Laboratory
Oak Ridge, TN 37831

NETS Program Review
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OAK RIDGE NATIONAL LABORATORY
U. S. DEPARTMENT OF ENERGY

Prototype Database Development Involves:

1) Data Collection, Data Fusion, Commodity Flow Estimation and Traffic Routing for 5 Agricultural Commodities:

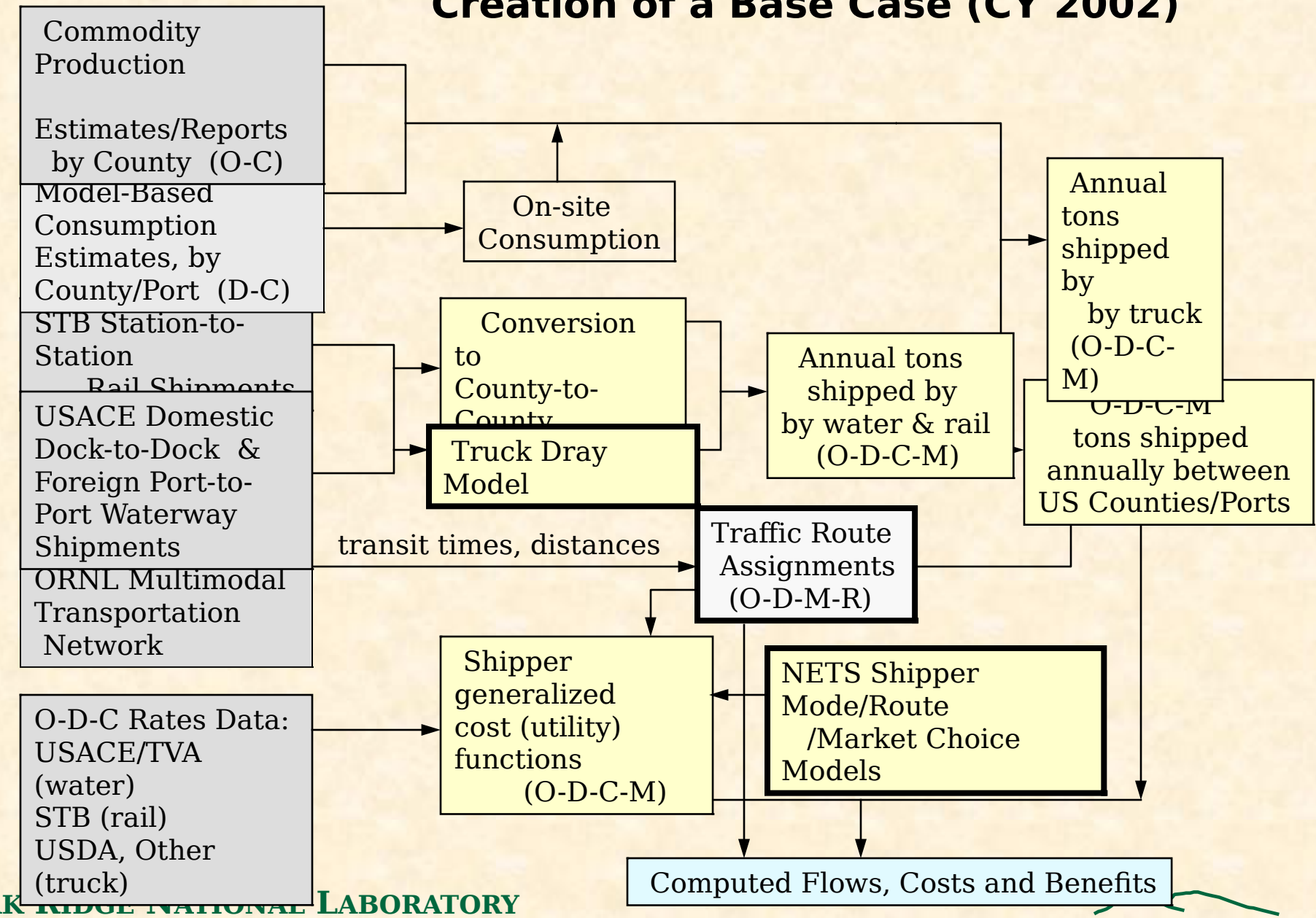
Corn
Wheat
Soybeans
Apples
Processed Poultry

2) Development of Origin-Destination-Commodity-and-Mode Specific Freight Rates and Transit Times to go with these Movemer

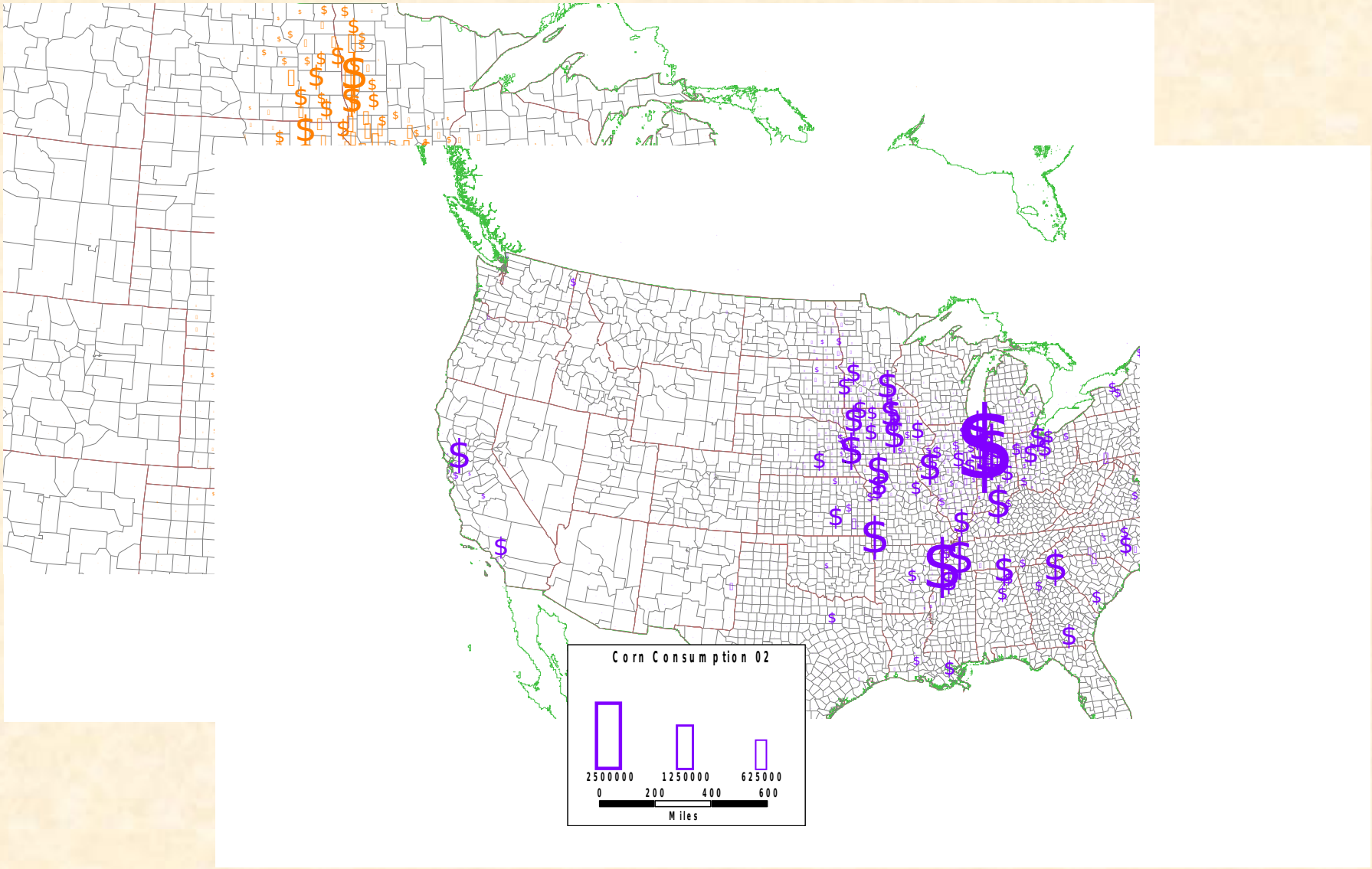
And

3) Identification of Data Problems That Need to Be Fixed

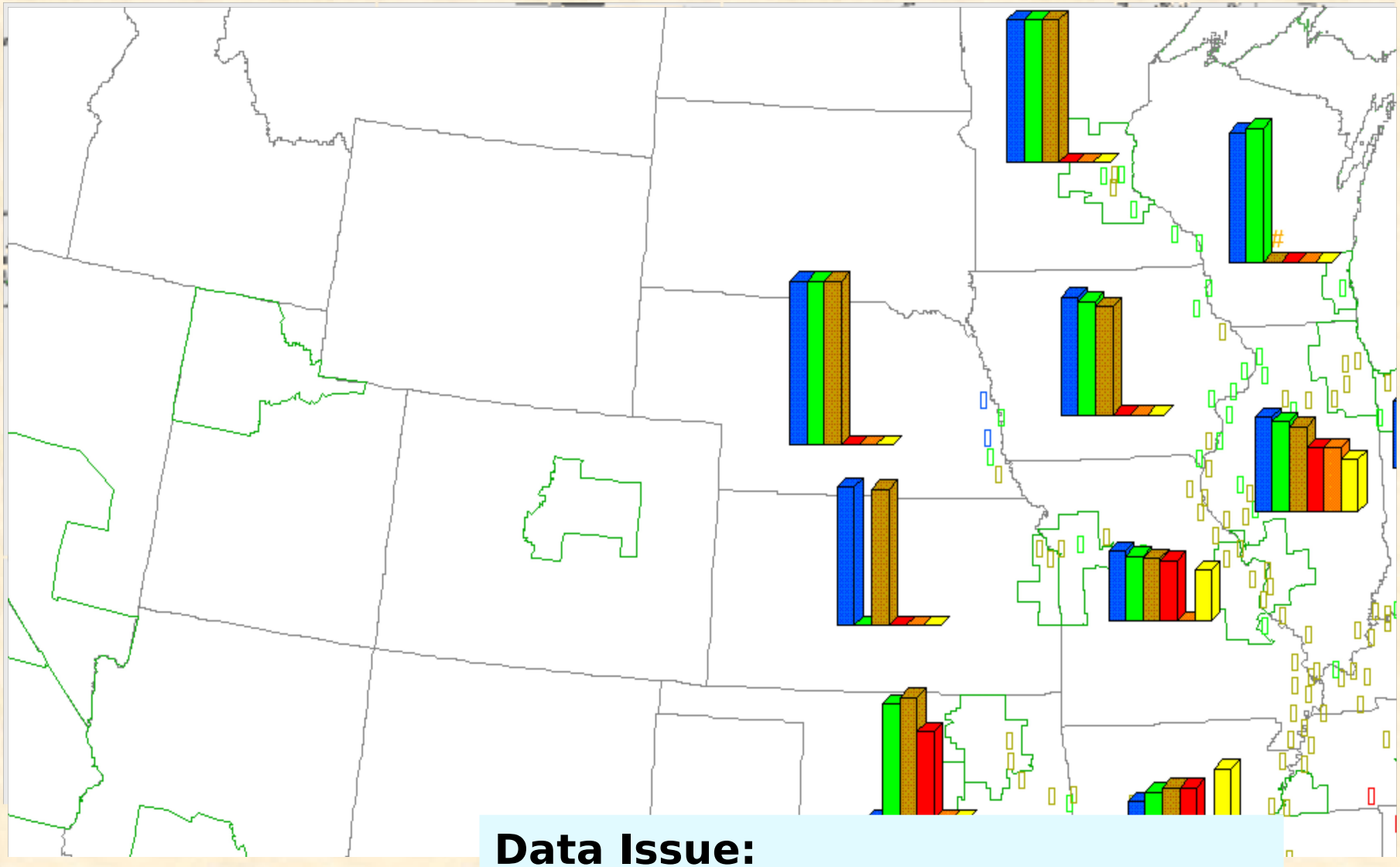
Creation of a Base Case (CY 2002)


Commodity Production
Estimates/Reports by County (O-C)
Model-Based Consumption Estimates, by County/Port (D-C)
STB Station-to-Station Rail Shipments
USACE Domestic Dock-to-Dock & Foreign Port-to-Port Waterway Shipments
ORNL Multimodal Transportation Network
O-D-C Rates Data: USACE/TVA (water) STB (rail) USDA, Other (truck)
On-site Consumption
Conversion to County-to-County
Truck Dray Model
transit times, distances
Annual tons shipped by by water & rail (O-D-C-M)
Annual tons shipped by by truck (O-D-C-M)
O-D-C-M tons shipped annually between US Counties/Ports
Traffic Route Assignments (O-D-M-R)
Shipper generalized cost (utility) functions (O-D-C-M)
NETS Shipper Mode/Route /Market Choice Models
Computed Flows, Costs and Benefits

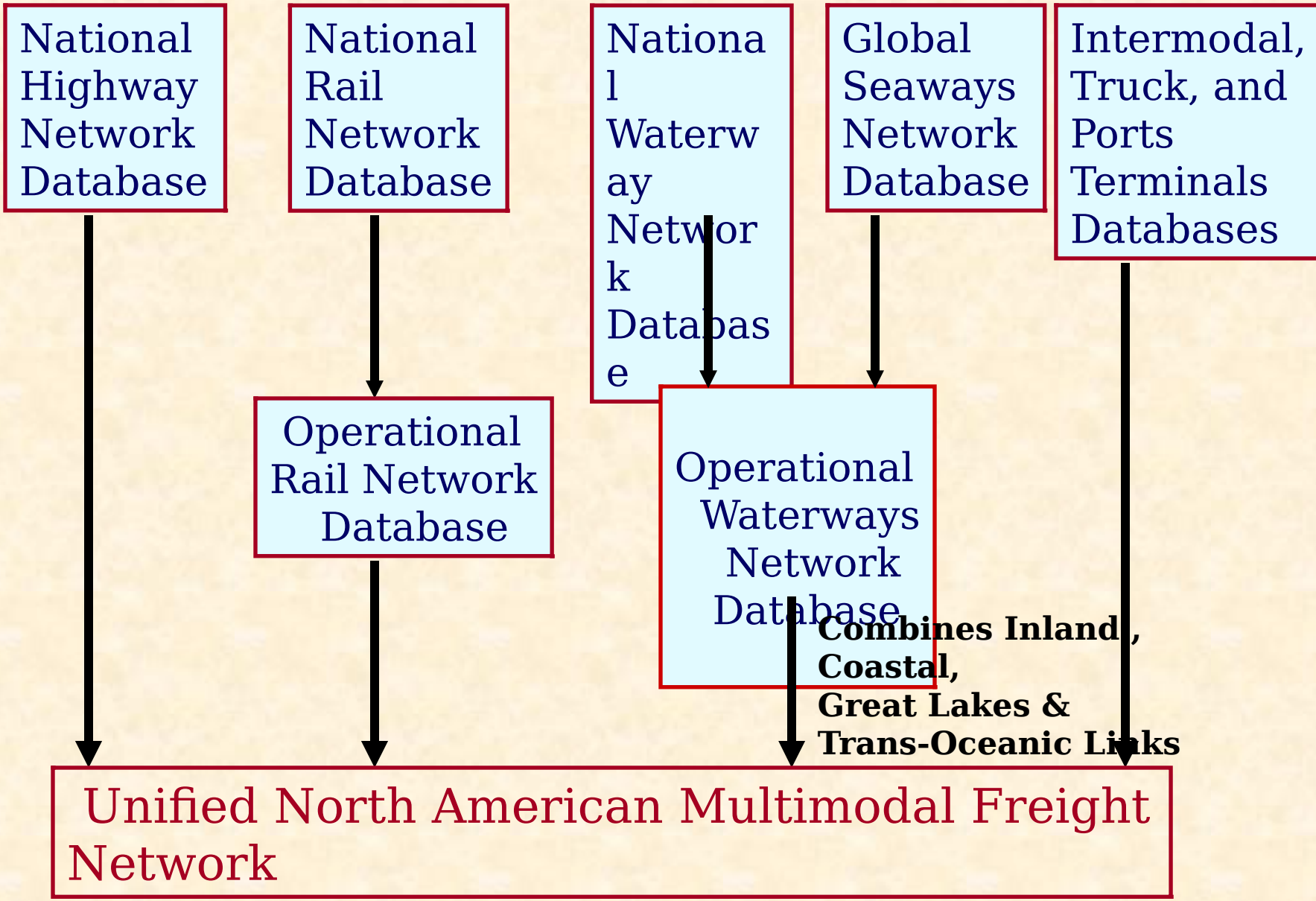
Estimated U.S. Corn Production and Consumption by County



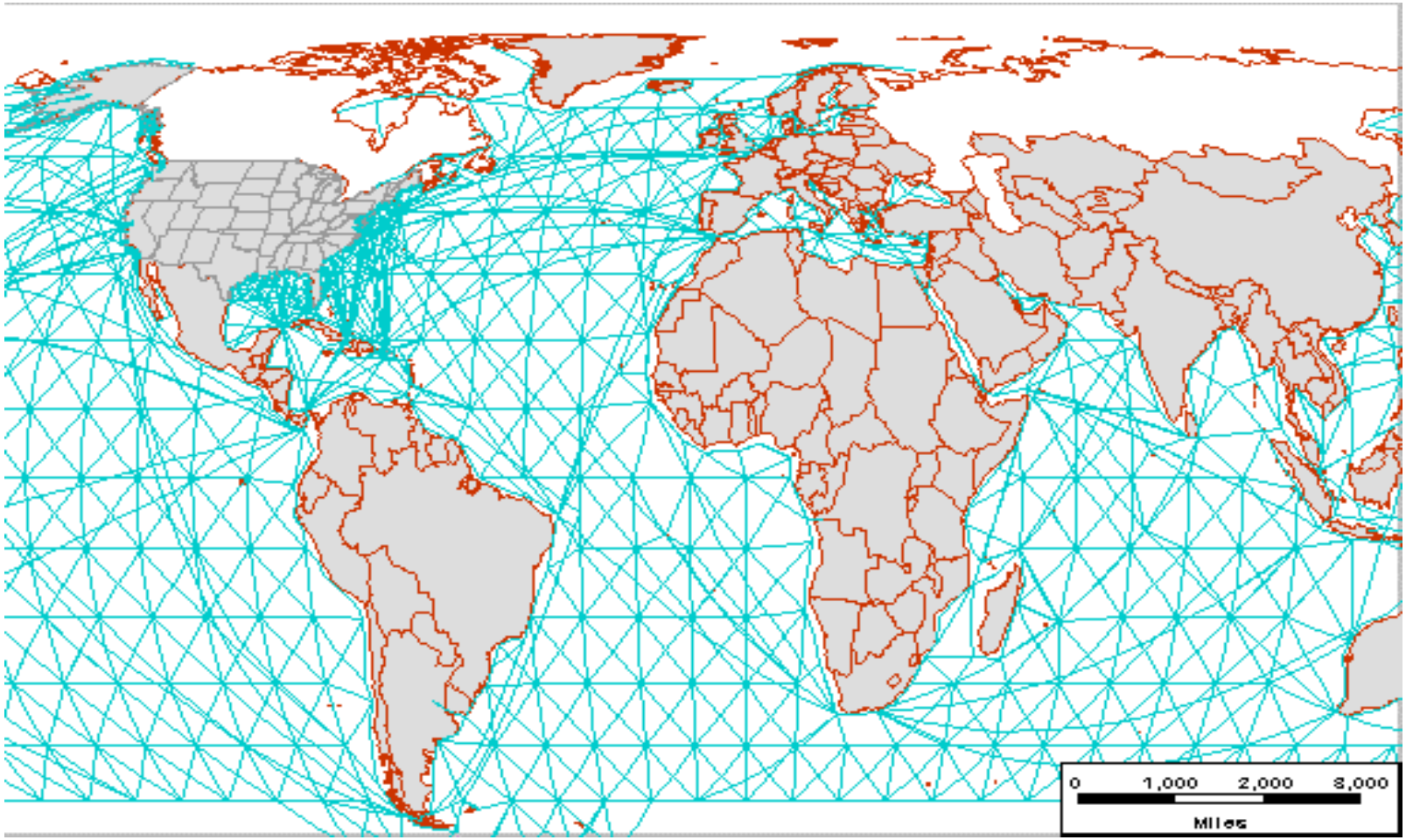
Waterway Rate Mapping Examples



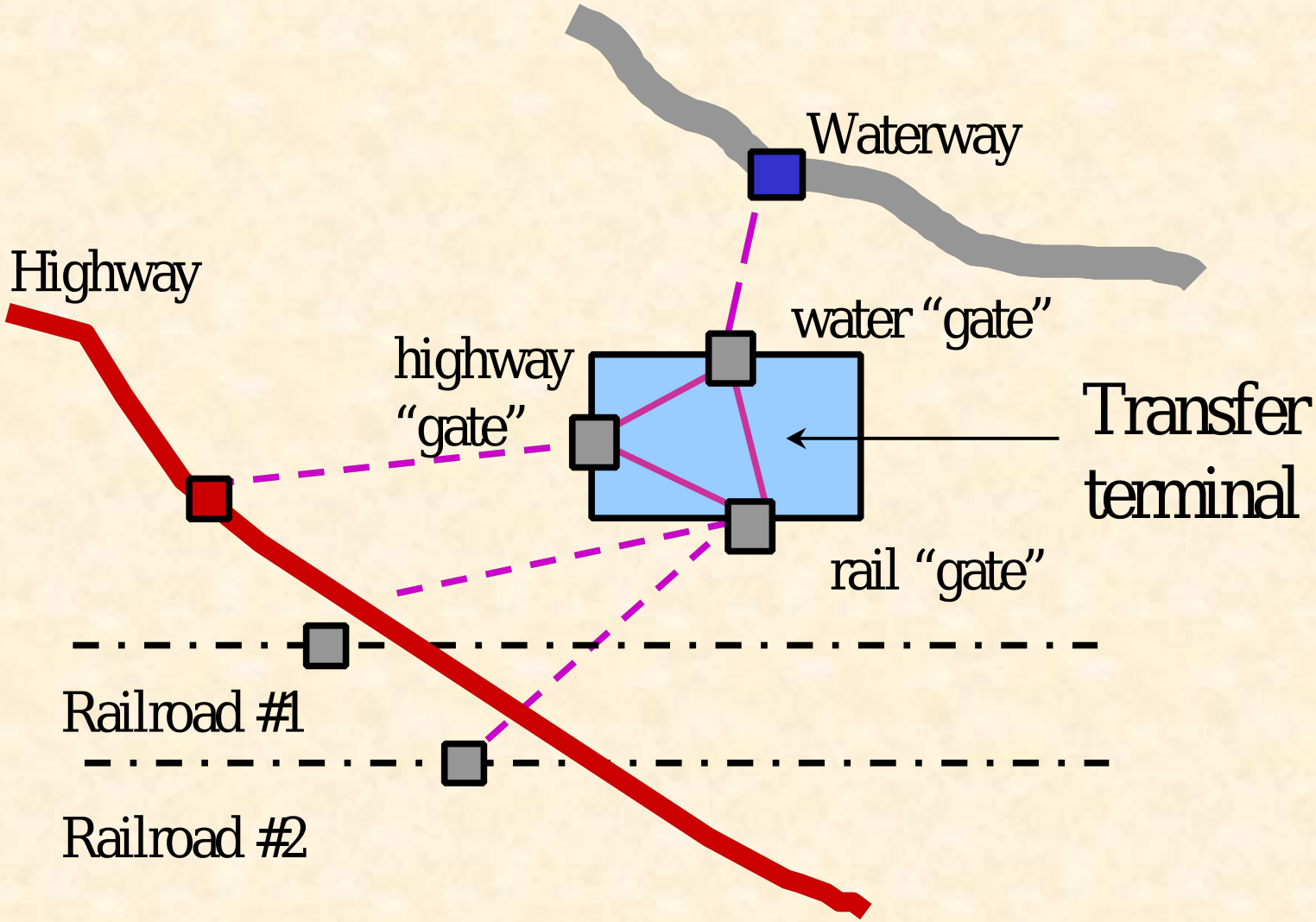
Data Issue:
Rates Needed for Western Rivers


National Highway Network Database
National Rail Network Database
National Waterway Network Database
Global Seaways Network Database
Intermodal, Truck, and Ports Terminals Databases
Operational Rail Network Database
Operational Waterways Network Database
Combines Inland, Coastal, Great Lakes & Trans-Oceanic Links
Unified North American Multimodal Freight Network

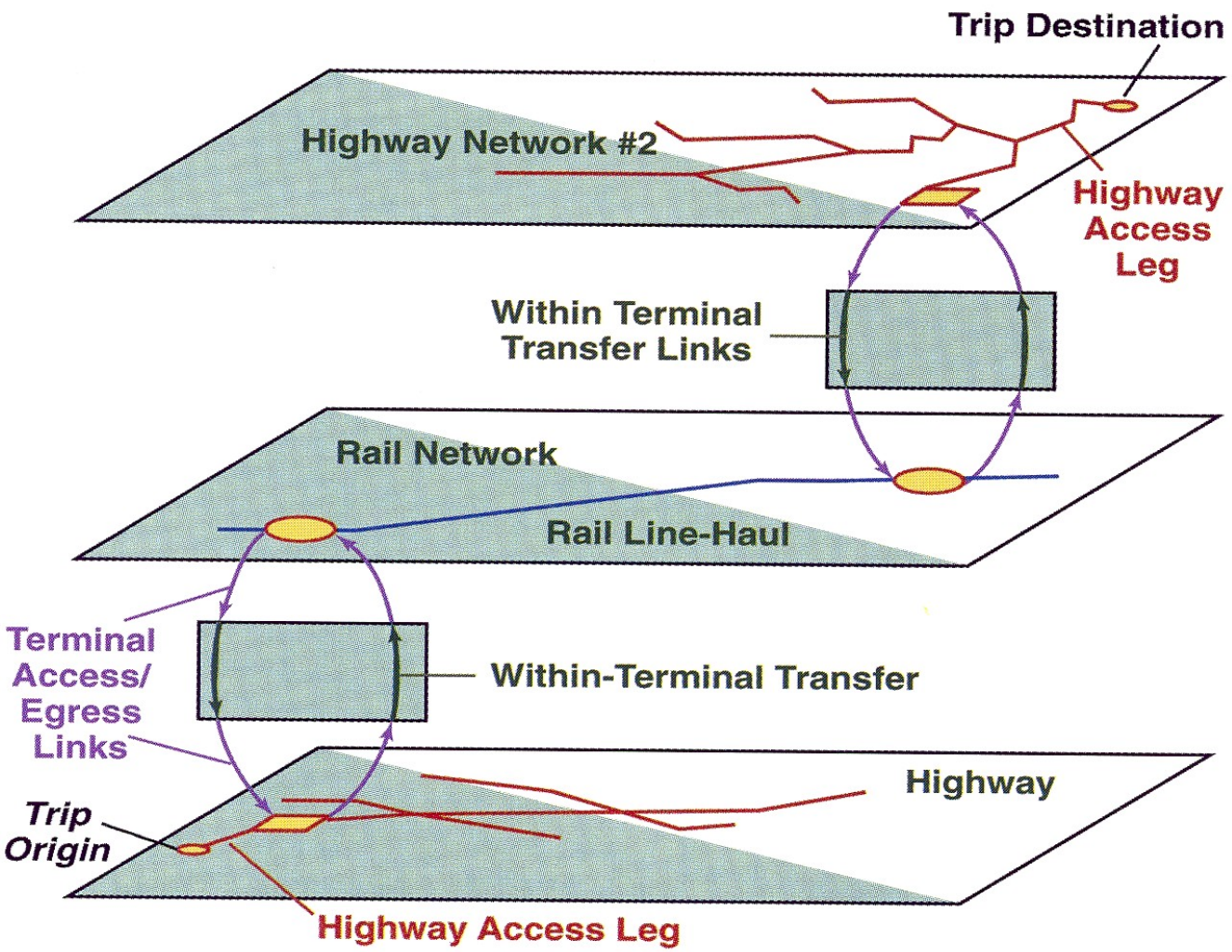
North American/Trans-Oceanic Multimodal Freight Netwo



An Intermodal Terminal Representation

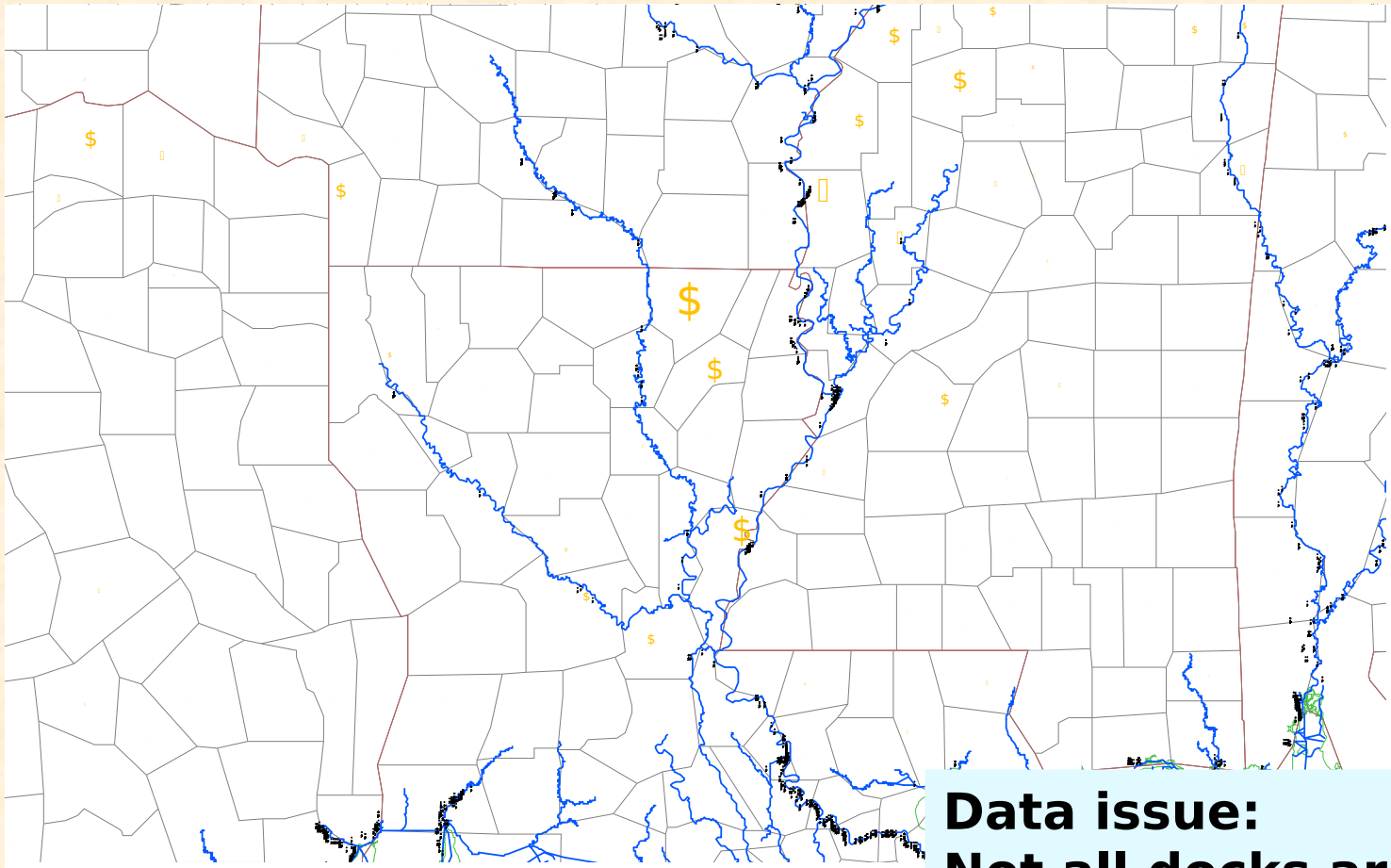


direction of travel



A CFS modeling example: a truck-rail-truck routing through two intermodal terminals.

Examples from Locating Waterway Docks along Navigable R



Data issue:
Not all docks are geo-coded
(and which side of the river are they on?)